

REMARKS

Claims 1 and 24 are each amended to call out that a selective catalytic reduction (SCR) catalyst is disposed in-line, directly downstream of, and in direct fluid communication with a NO_x adsorber, as described on page 10, lines 20-23, and as shown in Figures 2 and 3. Claim 1 is also amended to clarify the relationships between claim elements and remove claim language to further simply the claim.

Claim 17 is amended to clarify the relationships between the claim elements.

Claims 34 and 37 are amended to more particularly point out that an off-line burner is upstream of and in fluid communication with a reformer and a reactor, as described on page 30, lines 6-10, and as shown in Figures 5 and 6. Claim 34 is also amended to clarify the relationships between the claim elements.

New claims 49-62 are presented for the Examiner's consideration.

Claim Rejection based on 35 USC § 112

Claims 1, 7-12, 15, 19, and 34 have been rejected under 35 USC § 112, second paragraph for the use of the word "*capable of*" rendering these claims indefinite. Claims 7-12, 15, 19 are cancelled and are no longer subject to this rejection. In response to the rejection, the "*capable of*" phrase has been removed from amended base claims 1 and 34.

Accordingly, it is respectfully requested that the 35 USC § 112 rejection of claims 1 and 34 be reconsidered and withdrawn, and the claims be allowed.

Claim Rejection based on 35 USC § 102

Duvinage et al.

Claims 24-26, 28-34, and 36-40 have been rejected under 35 USC § 102(e). The Examiner stated that these claims were not patentable in view of United States Patent No. 7,254,939, filed by Duvinage et al.

Claims 25-26, 28-33, 36 and 38-40 are canceled and no longer subject to this rejection. Amended base claim 24 recites a SCR catalyst (20) that is disposed in-line, directly downstream of, and in direct fluid communication with the NO_x adsorber (18), as described in on page 10, lines 20-23, and as shown in Figures 2 and 3. Duvinage et al. describes an exhaust gas purification unit having a particulate filter (3) directly upstream from an SCR catalyst (4) and a

catalytic converter (5) directly upstream from the particulate filter (3), see Figure 2. Amended base claims 34 and 37 recite an off-line burner (38) that is in fluid communication with and upstream of a reformer (24) and a reactor (44), as described on page 30, lines 6-10, and as shown in Figures 5 and 6. Duvinage et al. describes an exhaust gas purification unit having a nitrogen oxide generator (16) upstream from a nitrogen oxide reduction unit (17), as shown in Figure 4. Applicants' have defined "*direct*" as a communication between a first point and a second point in system that is uninterrupted by the presence of reaction devices, such as a reactor, converter, filter, and the like, but may have other devices such as valves, mixers, flow regulators, and the like, see page 6, lines 27-31 to column 7, lines 1 and 2. Duvinage et al. does not disclose a selective catalytic reduction (SCR) catalyst disposed in-line and **directly** downstream of a NOX adsorber where the SCR catalyst is in **direct** fluid communication with the NOX adsorber or an off-line burner that is in fluid communication with, and upstream of a reformer and a reactor. Thus, Duvinage et al. does not disclose Applicants' invention as recited in amended base claims 24, 34, and 37.

Accordingly, it is respectfully requested that the 35 USC § 102(e) rejection of claims 24, 34, and 37 based on Duvinage et al. be reconsidered and withdrawn, and the claims be allowed.

Claim Rejection based on 35 USC § 103

Duvinage et al. in view of Kupe et al.

Claims 1 and 3-23 have been rejected under 35 USC § 103(a). The Examiner stated that these claims were not patentable in view of United States Patent No. 7,254,939, filed by Duvinage et al. in view of United States Patent No. 6,832,473, filed by Kupe et al.

Claims 3-23 are cancelled and no longer subject to this rejection. Amended base claim 1 recites a selective catalytic reduction (SCR) catalyst (20) being disposed in-line and directly downstream of the NOX adsorber (18) where the SCR catalyst (20) is also in direct fluid communication with the NOX adsorber (18), as described on page 10, lines 10-24, and as shown in Figures 2 and 3. As previously described herein, Duvinage et al. does not disclose a selective catalytic reduction (SCR) catalyst disposed in-line and **directly** downstream of a NOX adsorber where the SCR catalyst is in **direct** fluid communication with the NOX adsorber. Thus, Duvinage et al. does not disclose Applicants' invention as recited in amended base claim 1. Kupe et al. is applied to teach a NOx system that uses an oxidation catalyst and particulate filter.

Kupe et al. does not disclose a selective catalytic reduction (SCR) catalyst disposed in-line and **directly** downstream of a NOX adsorber where the SCR catalyst is in **direct** fluid communication with the NOX adsorber. Thus, Kupe et al. either individually or in combination with Duvinage et al. does not disclose Applicants' invention as recited in amended base claim 1.

Accordingly, it is respectfully requested that the 35 USC § 103 rejection of amended base claim 1 based on Duvinage et al. in view of Kupe et al. be reconsidered and withdrawn, and the claims be allowed.

Presentation of New Claims

New claims 49-62 are presented for the Examiner's consideration. New claims 49-62 represent additional inventive features that more particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Support for new claims 49-62 is found throughout the specification, the original claims, and as shown in Figures 1-8.

CONCLUSION

It is believed, in view of the amendments and remarks herein, that all grounds of rejection of the claims have been addressed and overcome, and that all claims are in condition for allowance. If it would further the prosecution of the application, the Examiner is urged to contact the undersigned at the phone number provided.

The Commissioner is hereby authorized to charge any fees associated with this communication and/or credit any overpayments to Delphi Technologies, Inc., Deposit Account No. 50-0831.

Respectfully submitted,

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